



Express Mail Label No. EV 819366504 US
PATENTS
Attorney Docket No. FPY-089

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:)
Wideman et al.)
Application No: 10/792288) Art Unit: 1773
Filed: March 3, 2004) Confirmation No.: 3160
For: TIE-LAYER MATERILAS,) Examiner: Nakarani, D.
ARTICLES AND METHODS FOR)
MAKING AND USING SAME)

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

RESPONSE UNDER 37 CFR §1.111

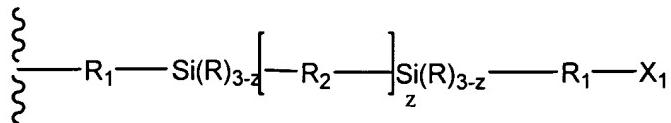
Dear Sir:

This Response is being filed in response to the outstanding Office Action, mailed May 16, 2006 in connection with the above-identified application. Applicants submit the following remarks in this Response. A Submission of Formal Drawings accompanies this Response. If any petition for extension of time is required, Applicants hereby petition for the same, and authorize payment of accompanying fee to be charged to the deposit account recited below.

In the claims:

1. (Canceled) A composite article comprising a polyolefin layer, a tie-layer, and a non-polyolefin, wherein said tie-layer comprises a silicon modified polyolefin.

2. (Currently Amended) A composite article comprising a polyolefin layer, a tie-layer, and a non-polyolefin, The composite article of claim 1, wherein said tie-layer comprises:



wherein ~~~~ represents a polyolefin segment;

R₁ independently for each occurrence represents an organic or inorganic moiety or a bond;

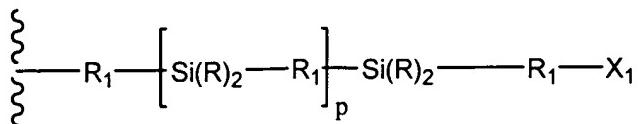
R₂ independently for each occurrence represents an organic moiety, an inorganic moiety, or a bond;

R independently for each occurrence represents an organic or inorganic moiety;

X₁ independently for each occurrence represents a moiety that is capable of bonding to said non-polyolefin an organic or inorganic moiety; and

z represents the number of linkages between the Si(R)_{3-z} moieties, and is an integer from 1 to 3.

3. (Currently Amended) A composite article comprising a polyolefin layer, a tie-layer, and a non-polyolefin, The composite article of claim 1, wherein said tie-layer silicon modified polyolefin comprises:



wherein ~~~~ represents a polyolefin segment;

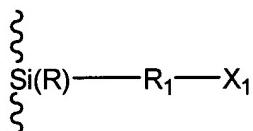
R₁ independently for each occurrence represents an organic or inorganic moiety or a bond;

R independently for each occurrence represents an organic or inorganic moiety;

X₁ independently for each occurrence represents a moiety that is capable of bonding to said non-polyolefin an organic or inorganic moiety; and

p is an integer from 0 to about 1000.

4. (Currently Amended) A composite article comprising a polyolefin layer, a tie-layer, and a non-polyolefin. The composite article of claim 1, wherein said tie-layer silicon modified polyolefin comprises



wherein ~~~~~ represents a polyolefin segment;

R₁ independently for each occurrence represents an organic or inorganic moiety or a bond;

R independently for each occurrence represents an organic or inorganic moiety; and

X₁ independently for each occurrence represents a moiety that is capable of bonding to said non-polyolefin an organic or inorganic moiety;

5. (Original) The composite article of claim 2, wherein for each occurrence, R is selected independently from the group consisting of H, alkyl, alkenyl, alkynyl, hydroxyl, alkoxy, halogen, aralkyl, aryl, heterocyclyl, polycyclyl, carbocycles, and heteroatoms.

6. (Original) The composite article of claim 5, wherein R is -O-alkyl or O-H.

7. (Original) The composite article of claim 2, wherein for each occurrence, R₁ and R₂ are selected independently from the group consisting of alkyl, alkenyl, and alkynyl, -O-, alkoxy, aryl, heterocyclyl, polycyclyl, carbocycles, and a bond.
8. (Original) The composite article of claim 2, wherein R₂ for each occurrence independently represents an acetyl moiety, alkyl ether, arylether, -O-, or a bond.
9. (Original) The composite article of claim 8, wherein R is selected independently for each occurrence from the group consisting of H, alkyl, alkenyl, alkynyl, hydroxyl, alkoxy, halogen, aralkyl, aryl, heterocyclyl, polycyclyl, carbocycles, and heteroatoms.
10. (Currently Amended) The composite article of claim 8, wherein R₁ is selected independently for each occurrence from the group consisting of alkyl, alkenyl, alkynyl, and alkoxy, and hydroxyl.
11. (Original) The composite article of claim 10, wherein z is 1.
12. (Original) The composite article of claim 10, wherein z is 2.
13. (Original) The composite article of claim 10, wherein z is 3.
14. (Canceled)
15. (Currently Amended) The composite article of claim 2 ~~14~~, wherein X₁ comprises a vinyl, epoxy or amine moiety.
16. (Original) The composite article of claim 3, wherein for each occurrence, R is selected independently from the group consisting of H, alkyl, alkenyl, alkynyl, hydroxyl, alkoxy, halogen, aralkyl, aryl, heterocyclyl, polycyclyl, carbocycles, and heteroatoms.
17. (Original) The composite article of claim 16, wherein R is -O-alkyl or -O-H.

18. (Original) The composite article of claim 3, wherein R₁ is selected independently, for each occurrence, from the group consisting of alkyl, alkenyl, and alkynyl, -O-, alkoxy, aryl, heterocyclyl, polycyclyl, carbocycles, and a bond.
19. (Original) The composite article of claim 3, wherein X₁ represents at least one moiety that is capable of bonding to said non-polyolefin.
20. (Original) The composite article of claim 19, wherein X₁ comprises a vinyl, epoxy or amine moiety.
21. (Original) The composite article of claim 4, wherein for each occurrence, R₁ is selected independently from the group consisting of alkyl, alkenyl, and alkynyl, -O-, alkoxy, aryl, heterocyclyl, polycyclyl, carbocycles, and a bond.
22. (Original) The composite article of claim 21, wherein X₁ represents at least one moiety that is capable of bonding to said non-polyolefin.
23. (Original) The composite article of claim 22, wherein X₁ comprises a vinyl, epoxy or amine moiety.
24. (Currently Amended) A composite tube, comprising the composite article of claim 24.
25. (Currently Amended) A composite tube that comprises a polyolefin layer, and a composite layer comprising fibers disposed in a matrix, wherein the polyolefin layer is bonded to the composite layer through a tie-layer, wherein the tie-layer comprises a silicon moiety.
- 26-28. (Canceled)